MANITOBA

Environmental Management Division

Environmental Management Services

Lead Program Report Soil/Sod Removal and Replacement in the Weston Area of Winnipeg, 1982

Environmental Standards and Studies

Terrestrial Standards and Studies Report #82-3

LEAD PROGRAM REPORT
SOIL/SOD REMOVAL AND REPLACEMENT
IN THE WESTON AREA OF WINNIPEG, 1982

D.C. JONES and D.L. WOTTON
TERRESTRIAL STANDARDS AND STUDIES
ENVIRONMENTAL SERVICES BRANCH
ENVIRONMENTAL MANAGEMENT DIVISION

REPORT NO. 82-3

SUMMARY

In 1981 an intensive survey of residential sod and soil was conducted in the vicinity of the Canadian Bronze Co. Ltd., located in the residential area of Weston in the City of Winnipeg. Following consultation with the Ontario Ministry of the Environment, it was recommended by the Manitoba Environmental Management Division that a sod and soil removal/replacement program be undertaken in all residential areas found to have lead levels of 2600 µg/g or greater in the sod or upper 5 cm (2 inches) of soil. Portions of the properties of 31 residences, 450 meters of boulevard and the Canadian Bronze picnic site were identified as candidates for removal and replacement.

A tender for the residential sod and soil removal/replacement program was released on April 21, 1982 by the Department of Government Services Purchasing Branch to seven local landscaping companies. The contract, #19-10S.P., was awarded to McEwen Brothers Landscaping Co., Winnipeg. Voluntary consent to remove and replace the portions of affected yards was obtained from 26 of the original 31 owners. The residential removal/replacement program commenced June 21 and was completed June 30, 1982 at a total contract cost of $13,278.41.

The removal of the sod and soil on the Canadian Bronze picnic site was independently contracted out to McEwen Brothers by the Canadian Bronze Company Ltd. This site was completed on July 22, 1982. All contaminated material from both contracts was removed to the City of Winnipeg's Brady Street landfill site.

A maximum of 200 µg/g lead was incorporated into the contract as a guideline for replacement sod or soil by the Environmental Management Division. All work was monitored by Environmental Management staff to ensure contract compliance. The program was conducted with a minimum of inconvenience to the property owners. A recommendation for subsequent monitoring in the spring of 1983 has been made.

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LIST OF APPENDICES

I Information package delivered to residents on January 18, 1982.

II Information package with consent form request delivered to affected residents during April - May 1982.

III Contract specifications for proposal #19-10-S.P., "Request for Proposal for the Removal of Contaminated Material and Landscaping," issued April 2, 1982.

I INTRODUCTION

In 1981 an intensive lead in soil survey was carried out in the vicinity of the Canadian Bronze Co. Ltd. located at 15 Bury Street in the residential area of Weston, City of Winnipeg. Canadian Bronze is a secondary lead smelter specializing in bearings and castings manufacture. This survey identified thirty-one residences, in addition to the Canadian Bronze picnic site located on company property, as having elevated lead levels in sod and soil. On September 1, 1981, an Environmental Management Division Report: "Report on Lead-in-Soil Levels in the Residential Area Adjacent to the Canadian Bronze Company Limited" was released. This report recommended a sod and soil removal/replacement program be undertaken for all areas found to have lead concentrations of 2600 µg/g or greater.

The Environmental Management Division has adopted the recommended Ontario Ministry of the Environment guideline for lead in soil of a maximum 2600 µg/g dry weight (3000 µg/g ± 13% dry weight). Lead is persistent in soil and there is concern for the indirect effects such as the pica habit of small children, contamination of edible vegetables grown in soil of high lead concentration and the re-entrainment of lead particles in the air.

II PUBLIC RELATIONS

On January 18, 1982, the Minister responsible for the Environment announced to the news media, details of the sod and soil removal/replacement program which identified 31 residential properties, 450 meters of boulevard and the Canadian Bronze picnic site. In addition, on January 18, an attempt was made to hand deliver individual soil survey results to the owners and tenants of all 31 residences (Appendix I). On March 28, a second contact letter with a consent form was delivered to individual property owners and tenants (Appendix II). Twenty-eight residents chose to participate in the voluntary program. Prior to the time of contract initiation, June 21, two more residents decided not to participate in the program.

Throughout the duration of the replacement program, staff of the Environmental Management Division made every effort to provide residents with at least twenty-four hours notice prior to the commencement of work on their properties, to answer any concerns regarding the replacement program and to make sure the contractor caused the minimum amount of resident disruption. On site supervision was provided throughout the work to ensure that all contract obligations were carried out.

In general, communication with the property owners was well received and complimented the program activities. Most enquiries were of a general nature and could be readily satisfied by staff on hand. Many residents expressed gratitude and satisfaction with the care, quality and expeditious nature of the work conducted on their properties.

III CONTRACT PROCEDURES

On April 30, 1982 contract #19-10 S.P. "Request for Proposal for the Removal of Contaminated Material and Landscaping," Appendix III, was tendered to seven landscaping companies with a May 17, 1982 closing date. Only two quotations were received, Lach Bros. Landscaping quoted a cost of $19,198.20 for the 31 affected residences and McEwen Bros. Ltd. quoted $14,199.30.

In consideration of bidding details, references and estimates, McEwen Bros. Ltd. was chosen as the successful tender. During the period April 19 to June 21, 1982, prior to the replacement work startup, five residences declined to participate in the replacement program. The net reduction to the contract cost was to be $1,520.40. However, a cost overrun of $599.51 on July 22 was incurred to sod five additional residences which brought the total contract cost to $13,278.41.

Quality control of the contract work was maintained through close supervision, regular site inspections and a thorough monitoring program. Following the final site inspection, a letter of acknowledgement for completion of all obligations was forwarded to McEwen Bros. on August 18, 1982.

IV SAMPLING AND ANALYSIS PROCEDURES

Following removal and replacement, the sod and soil of each residence was collected by a series of 10 sampling cores selected from each designated yard location. Each set of 10 cores, either sod or the soil to a 5 cm depth, was then bulked for analysis. Samples were collected using a two centimeter diameter stainless steel Oakfield soil corer and stored in clean poly bags. Samples were taken to the Technical Services Laboratory where they were air dried at room temperature. Samples of fine textured soil with excessive moisture which would not readily air dry were oven dried after being placed into clean acid washed glass beakers.

The dried samples were then ground to a medium texture using a mortar and pestle, and then screened through a Canadian Standard stainless steel No. 7 size sieve. This separated soil material was then reground by mortar and pestle and screened through a No. 80 size sieve.

Resulting dust-like soil material was then placed into individually labelled sterile plastic specimen vials and submitted for lead analyses. For each sample the mortar and pestle were washed and wiped dry using sterile gauze pads. The sieves were air blown to remove fine soil particles and then wiped clean using sterile gauze pads. The sod and soil sample was then analyzed for lead concentration by atomic absorption spectroscopy.

V QUALITY CONTROL MONITORING

The Environmental Management Division selected a level of 200 µg/g lead in both the replacement sod and soil as a guideline for replacement material and identified this level in the contract specifications. The sod and soil material designated for replacement use in the Weston area by McEwen Bros. was isolated in their yard and randomly sampled on June 7 and June 9, 1982. In the case of both sod and soil, the level of lead was found to be less than 50 µg/g, well within the specified guideline.

As work progressed on the residential properties, the replaced sod and soil materials were closely monitored through on-site supervision and routine sampling. All monitoring samples were submitted to the Technical Services Lab. between June 28 - 30, 1982. Only 4 samples were found to be in excess of 100 µg/g lead and these were reanalyzed to verify initial results. The analysis was completed on July 7 and the soil on 2 properties was found to be in question. One residence, reference #28 was found to have a level of 220 µg/g on the west side and the other, reference #5 had a level of 180 µg/g in the east side yard.

(i) SOIL CONCERNS

To follow-up the concern for soil levels at reference #28 and reference #5 the properties were resampled on July 8 to verify initial results. In the follow-up analysis, samples from both properties were found to be above the 200 µg/g guideline. A level of 380 µg/g was found at reference #28 and 820 µg/g at reference #5.

On July 15, an inspection of both sites was conducted by staff of the Environmental Management Division and a representative of McEwen Bros. At this time, a third sampling of the replaced material was made. Following analysis of this sample, a level of 370 µg/g lead was found at reference #28 and a reduced level of 90 µg/g was found at reference #5.

A decision was made to remove and replace the questionable soil on the west side of reference #28. On July 22, 1982, the sod was lifted and the soil replaced. Subsequent analysis of the new soil indicated an acceptable level of 50 µg/g lead.

The reason for the soil on this particular portion of reference #28 to be above the 200 µg/g lead guideline is not known. However, this portion of the property was adjacent to a boulevard which was identified as having in excess of 2600 µg/g lead in the sod and was designated for removal and replacement. The contractor used this boulevard to stockpile the replacement soil for the properties on Gallagher Avenue. The west side of reference #28 was the last property to be replaced from this stockpile. It is possible that in the process of scraping the last soil from the boulevard, that lead contamination may have been incorporated into the replacement soil.

In the case of the questionable soil found on the east side yard of reference #5, a decision was made not to replace the soil but cover it with sod. The reason for the fluctuation in lead levels is not known, however, such variance is indicative of sample contamination and this appears to have occurred in the first and second check samples. The east side of the property in question is a narrow strip of soil, approximately 25 cm wide, running adjacent to the exterior wall of the house. The exterior wall on the east side of the house is wood sided and the paint is distinctly weathered and flaking. During the site inspection on July 15, paint chips were readily found on the surface of the replaced soil and the chips could be identified as coming from the house siding. It is possible that a paint chip became incorporated in the second check sample resulting in the elevated level of 820 µg/g lead. To prevent further soil contamination from this potential source, a decision was made to place a layer of sod over the replaced soil.

On July 22, 1982 the contaminated sod and soil identified on the picnic site of the Canadian Bronze Company Ltd. was removed and replaced. This was arranged through an independent contract between McEwen Bros. and the company. Staff of the Environmental Management Division conducted follow-up sampling and analysis of the replaced materials. Lead levels of 70 µg/g for both the replaced sod and soil were found on the property.

(ii) SOD CONCERNS

Following completion of the removal and replacement program, two residences contacted Environmental Management staff with concerns as to no sod being placed on their properties. During the March site inspections which identified material specifications for replacement, the properties of reference #31 and reference #8 were not identified as having existing sod on certain portions of their properties.

In both cases soil was removed from the designated areas and replaced with a flowerbed mixture of quality soil. The residents of both properties requested sod following the program. The new soil being loose and unstable was being disturbed by children and pets at each residence. This resulted in the scattering and spreading of the replaced soil in an unsightly fashion across sidewalks and other areas of the yards. This was of particular concern following a period of rain.

Although the areas in question had not been previously documented as having sod, and sod was not evident in the pictures taken during the March assessment, this may have been an oversight due to the condition of the yards at that time of year. As such, a decision was made to have the previously replaced soil raked into position and a layer of sod placed over the soil for stabilization and enhancement. As the portions of the yards in question were side yards, the task required sodding of adjoining properties of reference #30 and reference #9. These residences were completed on July 22.

(iii) FOLIAGE CONCERNS

On July 15 a site inspection of reference #28 was conducted by Environmental Management staff and a representative of McEwen Bros. At this time the owner of the property expressed concern for the chlorotic appearance of several plants in her backyard. The resident questioned airborne contamination of lead as the possible cause and related an historical occurrence of the chlorosis.

A decision was made to sample the foliage from plants in question for analysis of lead. Foliage samples were taken from a grapevine, two ash, a plum and an apple tree in the backyard. In addition, samples from an ash located several blocks from the site were taken for background.

The levels obtained in the foliage of grape at reference #28 are similar to levels obtained from ash foliage sampled adjacent to the parking lot of Canadian Bronze in 1979[1] and noted as being higher than those found in trees adjacent to a high traffic area. The reason for the greater accumulation of lead in the grapevine as compared to the other foliage is not clear, however, it may be related to foliage size, shape, and location. The phytotoxicological implications of this level of lead in leaf tissue are not known.

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[1] Wotton, D.L., 1980 - A Survey of Lead Accumulation in Tree Foliage and Surface Soil of the Winnipeg Area. Manitoba Department of Consumer and Corporate Affairs, Rep. 80-1, 31 pp.

VI RECOMMENDATIONS

The elevated levels of lead in sod and soil found in the Weston area represent an historical accumulation and are likely derived from one or a combination of the following; smelter emissions, vehicular exhaust, leaded paint. In the past decade a considerable reduction of lead emissions to the environment has been made by implementing controls on these potential sources. However, at this time, information on the rate of deposition and accumulation is scant and is uniquely site specific in the urban environment. For this reason the following recommendations are made to increase the knowledge and understanding of lead in the Weston area.

1. It is recommended that a monitoring program be established to evaluate lead levels in the replaced sod and soil in the Weston area.

2. That the monitoring program be initiated in the spring of 1983 with a follow-up survey of all replaced sod and soil on residential properties and the Canadian Bronze picnic site.

3. That a similar follow-up monitoring program be initiated on boulevard soil once removal and replacement has been conducted by the City of Winnipeg.

4. That follow-up sampling of foliage in the backyard at reference #28 be conducted in the spring of 1983 to determine if lead is being incorporated in leaf tissue and fruit of the grapevine.

5. That a similar sod and soil removal and replacement program be implemented in residential areas where lead concentrations are found to exceed 2600 µg/g in these materials.

APPENDIX I

January 18, 1982

DEPARTMENT OF CONSUMER AND
CORPORATE AFFAIRS AND ENVIRONMENT
Environmental Management Division
Box 7, Building 2
139 Tuxedo Avenue
Winnipeg, Manitoba
R3N 0H6

To The Occupant

Winnipeg, Manitoba
R3C 1V8

Dear Occupant:

As you may recall, last summer the Environmental Management Division of the Provincial Government collected sod and soil samples from the property you are occupying to determine lead levels. These samples have now been analyzed by our laboratory and the results indicate levels on the property are:

	Lead Levels in Parts per Million (ppm)			
	Front Yard	Back Yard	East Side Yard	West Side Yard
Sod	2500	2400	-	-
Soil	1100	1900	700	3000

After investigating past work in other jurisdictions, and reviewing pertinent information and literature, we have determined that a sod and soil removal and replacement program should be considered where levels exceed 2600 ppm. Therefore, the lead levels measured on the property in the west side yard are not considered acceptable and we are proposing some sod and soil removal and replacement on your property.

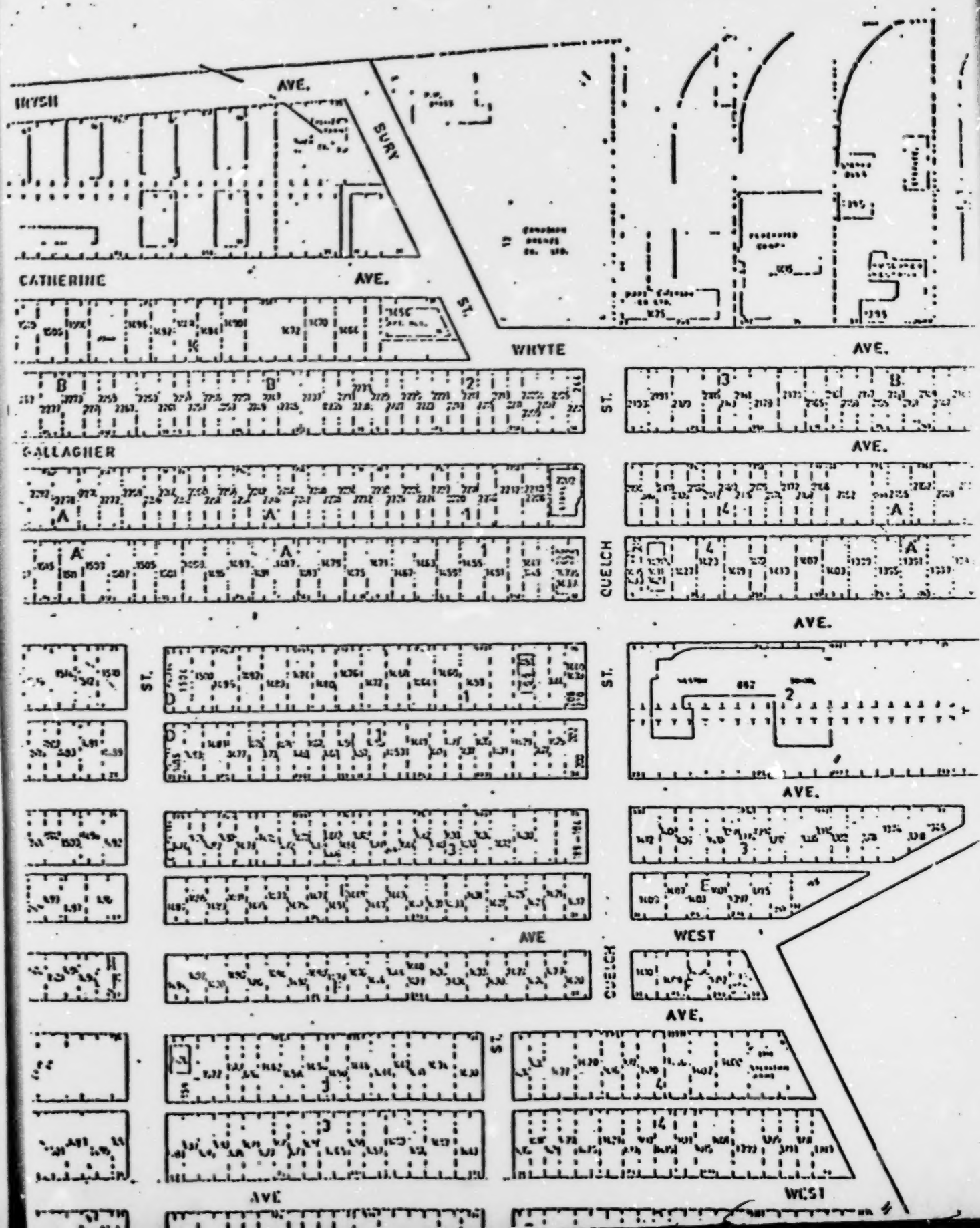
As you can appreciate, it will not be possible to carry out this program during the winter months. We are contacting the owner of the property to obtain agreement and if received, it would be our intention to proceed with a program in the late spring or early summer. There will be no cost to you or the owner for the removal and replacement of sod and soil. We will be contacting you at a later date concerning details of the removal program.

We would like to stress that this is a preventative action designed to provide protection for residents, particularly for young children. As you know, young children may eat or mouth soil or soiled material. For this reason, it is important to initiate all practical measures to prevent this. For example, where possible, prevent small children from putting soil in their mouths, ensure children's hands are washed thoroughly after being in contact with the soil, and thoroughly wash all vegetables from your garden.

If you have any further questions or concerns or wish to obtain more detailed information about our sod and soil removal program, or about lead in general, call Mr. Dave Wotton, Program Co-ordinator, at 895-5311.

Yours sincerely,

W. George Rowen,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INFORMATION ON LEAD

For hundreds of years, lead has been mined, smelted and made into many useful products for home and industry. Lead, however, is one of the oldest toxins known to man.

Humans are exposed to lead in numerous ways, the most common being lead based paints, auto exhaust and lead smelting industries. In the Weston area, all these factors are present and therefore contribute to the elevated lead levels in the soil and sod.

It is known that high concentrations of lead can pose a human health hazard when it is ingested or inhaled. This is particularly true for young children. This is the primary reason that we are embarking upon this special sod and soil removal program for 32 residential properties in the Weston area. It should be stressed, however, that this is a preventative program and residents should not become unduly alarmed.

We would also like to suggest some further preventative measures that you can take to protect you and your children from exposure to lead.

A) Ensure children do not eat or mouth soil;
B) Prevent children from mouthing soiled fingers or soiled material;
C) Ensure all vegetables from your garden are thoroughly washed.

If you have any further health concerns, please consult your physician or Dr. Peter Warner, Director of Environmental Health, Manitoba Department of Health at 775-9761.

APPENDIX II

Dear :

Further to my letter of January 18, 1982, Environmental Management staff are proceeding with our lead program in the City of Winnipeg. As previously outlined, your property, in addition to others in your area, was surveyed to determine lead concentrations and it was recommended that sod and soil which was found to contain 2600 ppm of lead or greater should be removed and replaced.

The areas of your property which exceeded this guideline were indicated to you in my previous correspondence, copy attached, and we are recommending removal and replacement of these areas. At this time, I am forwarding a "Consent Form" to provide us with authorization to initiate our recommended program. If you are in agreement, it is our intention to proceed in the late spring or early summer at no cost to you for the removal and replacement of sod and soil.

I would like to point out that this is a preventative action designed to provide protection for residents, particularly for young children. As such, it is a voluntary program and it is your decision whether or not your property is included in our sod/soil removal and replacement program.

For your convenience, I am enclosing a copy of the fact sheet on lead which was included in my previous letter. If you have any further questions or concerns or wish to obtain more detailed information about our sod and soil removal and replacement program or about lead in general, Mr. Dave Wotton, Program Co-ordinator at 895-5311, or Box 7, Bldg. 2, 139 Tuxedo Avenue, Winnipeg, Manitoba, R3N 0H6, would be pleased to respond to your requests.

Yours sincerely,

W. George Bowen,

A.D.M.

Encl.

CONSENT FORM

FOR

SOIL REMOVAL AND REPLACEMENT

I/We, the undersigned _____

are the owners/tenants of _____

in the City of Winnipeg.

I/We are aware that the Environmental Management Services Branch of the Province of Manitoba has determined that the levels of lead in the sod/soil of the _____, _____, _____, _____, are in excess of their recommended guideline of 2600 ppm.

I/We hereby consent to permit entry onto our property and to permit removal of vegetation / soil to a depth of approximately 6 inches, from the _____, _____, _____, _____, on the condition that the soil be replaced with uncontaminated soil, and that the vegetation be replaced, such that our property be restored substantially to the condition it was in prior to the commencement of the work.

We agree that the work may be done at anytime during the daylight hours providing that it is done expeditiously once commenced.

The responsibility for any damage done or any injuries caused during the conduct of this work lies with those doing the work. We understand that this work will be done without cost to us.

Today's date is the _____ day of _____, 1982.

SIGNATURE(S): _____

_____

DW/ja

APPENDIX III

PROVINCE OF MANITOBA

DEPARTMENT OF GOVERNMENT SERVICES

PURCHASING BRANCH

EMD

REQUEST FOR PROPOSAL

FOR THE REMOVAL OF CONTAMINATED

MATERIAL AND LANDSCAPING

Proposals should be enclosed in a sealed envelope marked:

PROPOSAL #19-10 S.P.

Addressed to: Province of Manitoba
Purchasing Branch
530 Century Street
Winnipeg, Manitoba
R3C 0V8

Returned: Not later than 4:00 P.M.

May 17, 1982.

Notes:

1. Proposal closing date must be shown on face of the envelope.
2. Proposals will be opened, not publicly, on May 18, 1982.

ISSUE DATE April 21, 1982

RETURN DATE May 17, 1982

VENDOR

_____

_____

_____

_____

Signature of Authorized Official

_____

_____

A. PREAMBLE

1. Environmental Management of the Manitoba Government has identified a number of residential locations within the City of Winnipeg that contain contaminated soil, sod and other materials.

2. The contaminent is lead and is in concentrations of 2600 ppm. and greater.

3. Exposure to the contaminated materials over a short period of time is not considered harmful but continued exposure may be hazardous to the health of young children.

4. Protective clothing is not required by any personnel who may be involved in the removal of the contaminated material.

B. INTENT

1. It is the intent of the Manitoba Government to contract for the removal of all of the contaminated materials and restore the properties to a lead free condition similar to what they were prior to contamination.

2. The intent of this "Request for Proposal" is to solicit prices for the project and to establish the terms and conditions under which the project will be completed.

C. BIDDERS INSTRUCTIONS

1. Only those proposals submitted on the attached appendices will be considered.

2. All proposals must be complete, signed in ink by an authorized official of the Company, and received prior to proposal closing date and time.

3. All proposals must be valid for acceptance for 60 days after the closing date and time of this "Request for Proposal".

4. Bidders are to inspect the properties designated on the attached appendices to verify and confirm the information contained therein and to familiarize themselves with the actual site conditions.

D. TERMS AND CONDITIONS

1. Removal of contaminated material

a. All contaminated materials are to be excavated to a depth of 6" from those properties designated in the attached appendices.

b. Material will be cleared from around the roots of larger plants and trees where feasible.

c. Material will be cleaned as close as possible to fences, concrete driveways, sidewalks, patios, buildings, or any other permanent object where removal is not practical or required.

d. Adequate precautions will be taken to ensure the full protection of all objects, trees, buildings, etc., that are not designated for removal.

1. Removal of contaminated material (continued)

e. Adequate precautions will be taken to ensure the full protection of utility lines, water lines, telephone cable, etc., that may be adjacent to the designated properties.

Note: The successful bidder, or contractor, will be required to ascertain the location of all buried cables, etc.

f. All excavated materials, including any designated plants, will be transported by the contractor immediately from the properties to the Brady Street landfill site.

g. Transportation will be by way of covered trucks so as to prevent any spillage of material.

h. All spillage of material on streets, sidewalks or adjacent properties will be cleaned up immediately by the contractor.

i. All equipment, vehicles and tools used for the removal of the contaminated material must be cleaned thoroughly after use and prior to being used for any other purpose.

2. Landscaping

a. Designated properties are to be landscaped as per the attached appendices after the contaminated materials have been removed.

b. Top soil mixture under all areas that require sodding shall be spread evenly and compacted to provide a firm base free of air pockets.

c. The top soil shall be natural, fertile, friable soil possessin characteristics of representative production soils in the vicinity. It shall be obtained from naturally well drained areas and shall not be excessively acid or alkaline, nor contain toxic substances which may be harmful to plant growth. It shall be without a mixture of subsoil, stones, stumps, roots, or similar substances, 2" and over in diameter, and debris or other objects which may be a hindrance to planting operations. Lead content must be less than 200 ppm.

d. Depth of topsoil mixture shall be sufficient to allow for the laying of sod which will return the grade to its original level with due consideration given to proper drainage practices.

e. Sod shall be #1 Nursery grown 50% Kentucky Blue, 50% Creeping Red Fescue Turf, strongly rooted and free from pernicious weeds, mosses and stones. It shall be free of disease, burned or bare spots and mechanical injury, and shall not be delivered in a frozen condition. It shall be mowed to a height of 2" before lifting and shall be of uniform thickness with not over 1½" or less than 3/4" of soil.

f. Sod shall be laid closely knit together in such a manner that no open joints are visible and no pieces are overlapping.

g. Sod shall be laid smooth and flush with adjoining areas and paving.

h. All sodded areas are to be dressed and top seeded immediately after installation.

i. After installation all areas shall be watered immediately with sufficient amounts to saturate the soil and topsoil.

. . . 3

2. Landscaping (continued)

j. After sod and soil has dried sufficiently to prevent damage, the area shall be rolled with a roller to ensure a good bond between sod and soil and to remove minor depressions and irregularities.

k. Maintenance of sodded areas shall begin immediately after installation and shall continue for 30 days after completion of all landscaping.

l. Maintenance shall include all measures necessary to establish and maintain sod in a vigorous growing condition including, but not limited to

- mowing, watering, rolling and weed control as required to conform with good horticultural practice
- repair of any erosion occuring as a result of faulty workmanship and materials
- immediate repair of any sodded areas which show deterioration or bare spots

Note: Arrangements for the supply of water will be made by Environmental Management.

m. Plants, trees or shrubs will be installed to replace existing as designated by Environmental Management on the attached appendices.

n. Replacements will be similar, in size and species, to the originals currently on the properties.

o. Replacements shall be installed consistent with best current horticultural practices and shall be guaranteed for 12 months.

p. In areas where garden or flower beds have been removed, replacement soil must be of current standard quality and mixture.

q. In areas of driveway or parking locations that have been removed, the replacement material shall be equivalent to the original and compacted to ensure the area is suitable for its intended purpose.

r. Driveway or parking locations shall be graded level with adjacent areas consistent with proper grading practices with due consideration to drainage requirements.

3. Site Conditions

a. Streets, sidewalks and adjacent properties shall be maintained free of spillage, soil debris, etc., at all times by the Contractor during the installation process.

b. Following completion of the contract, the Contractor shall remove all equipment and excess or waste material from the properties and shall leave them in a clean condition satisfactory to Environmental Management.

. . . 4

4. Inspection

a. All removal, landscaping and other activities related to the contract shall be subject to the ongoing inspection and approval of Environmental Management.

b. All replacement materials are subject to the approval of Environmental Management prior to installation.

c. Any work not satisfactory as specified shall be rectified by the Contractor.

5. Acceptance

a. On completion of the contract, a final inspection will be carried out and, if satisfactory, a letter of acceptance will be provided by Environmental Management.

6. Guarantee

a. All work specified above shall be guaranteed for 12 months against faulty workmanship or materials.

b. Any replacement materials and/or labour required to rectify unsatisfactory conditions during the terms of the guarantee shall be provided by the Contractor at no cost.

Note: This guarantee will become null and void if the owner does not maintain the property to minimum acceptable standards.

7. Liability

a. The successful bidder, or contractor, shall make good any and all damage to streets, sidewalks, trees, shrubs, plants, building, fences, utility lines, water lines, etc., caused by the Contractor or his agents during the performance of the contract at no cost to the Manitoba Government.

b. The successful bidder, or contractor, shall provide insurance to satisfy the following requirements:

i. To save harmless the Province from all claims and demands arising directly or indirectly out of or in connection with the Contractor's activities during the performance of this contract.

ii. To provide, maintain and pay for the following insurance which shall be placed with such insurance company or companies and in such form as may be acceptable to the Province:

aa. Comprehensive General Liability Insurance protecting the Province, the Contractor, his subcontractors and their respective servants, agents or employees against damages arising from personal injury and from claims for property damage which may arise directly or indirectly out of the operations of the Contractor, his subcontractors, servants, agents or employees under the contract. Such insurnace shall be for an adequate amount acceptable to the Province and shall in any event be not less than $5,000,000.00 inclusive any one occurrence and shall include a standard form of cross liability clause.

. . . 5

7. Liability (continued)

bb. Automobile Insurance on the Contractor's owned and non-owned vehicles, protecting the Contractor and the Province against damage arising from bodily injury and from claims for property damage arising out of their use on the operations of the Contractor, his subcontractors or agents under this contract. Such insurance shall be for an adequate amount acceptable to the Province and shall in any event be not less than $5,000,000.00 inclusive in any one accident.

cc. Evidence of insurance in such form as may be required shall be lodged with the Province before the work is commenced.

8. Pricing

a. Prices are to include all removal of contaminated material, transportation to Brady Street landfill site, and landscaping.

b. Prices are to be separate for each property as per the attached appendices.

c. Prices are to be Federal Sales Tax Exempt and Manitoba Revenue Tax shown as an extra, if applicable.

9. Invoicing

a. Invoices are to be submitted to:

Environmental Management
Bldg. #2 - 139 Tuxedo Blvd.
Winnipeg, Manitoba
R3N 0H6

Attention: Dave Wotton
Telephone: 895-5311

b. Separate invoices are to be submitted for each property.

Note: A hold back of 15% of the total contract price will be retained by the Manitoba Government for 30 days after the period of maintenance has expired as indicated in D.2.1. above.

10. Time Frames

a. June 14, 1982 is the anticipated starting date for the work specified.

b. The work is to be completed within four (4) weeks of start date.

11. Award of Contract

a. Award notification will be by way of a Purchase Order issued by the Manitoba Government Purchasing Branch.

b. The award will be made to the bidder who most closely meets the terms and conditions of this "Request for Proposal".

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12. CONTACT PERSONS

a. Any questions pertaining to the commercial aspects of this "Request for Proposal" shall be directed to:

S. Parry
Contracts/Services Officer
Department of Government Services
Purchasing Branch
530 Century Street
Winnipeg, Manitoba
R3C 0V8

Telephone: 944-0070

b. All other questions shall be directed to:

D. Wotton
Environmental Officer
Environmental Management
Bldg. #2 - 139 Tuxedo Blvd.
Winnipeg, Manitoba
R3N 0H6

Telephone: 895-5311

c. Arrangements to view the properties are to be made through D. Wotton, as shown above, who will also arrange and be responsible for all inspections, letter of acceptance, and liaise with the property owners.

POOR

QUALITY

ORIGINAL